1

U7138-11-F

REVIEW & PERSPECTIVE

Center for Business & Economic Research
College of Business & Economics ■ University of Kentucky

Volume 14, Number 2 September 1990

ISSN 0270-1421 OCLC: 5289744

Kentucky Agricultural Survey Highlights, 1986 and 1988

Timothy Collins, Kurt Stephenson, Jerry R. Skees and Louis E. Swanson

Agriculture in the United States has undergone tremendous changes over the years, but few periods can match the tumult of the 1980s. After relative prosperity in the 1970s, when historically low interest rates, productivity gains, and a comparative advantage in world markets spurred farmers to increase the size of their operations, the 1980s saw an agricultural depression which some experts say matched the Great Depression of the 1930s.

We are only beginning to understand the true nature of the problems many farmers faced during the 1980s. These problems stemmed in part from government efforts in the late 1970s and early 1980s to curb inflation by boosting interest rates. The decade began with instability marked by shifting monetary patterns as world markets became even more integrated, soaring land and input prices, and heavy farm debt load, to name a few trends. Analysis of nationwide data from the period suggests some farmers fared well during the period. Others did not. The same is true of Kentucky.

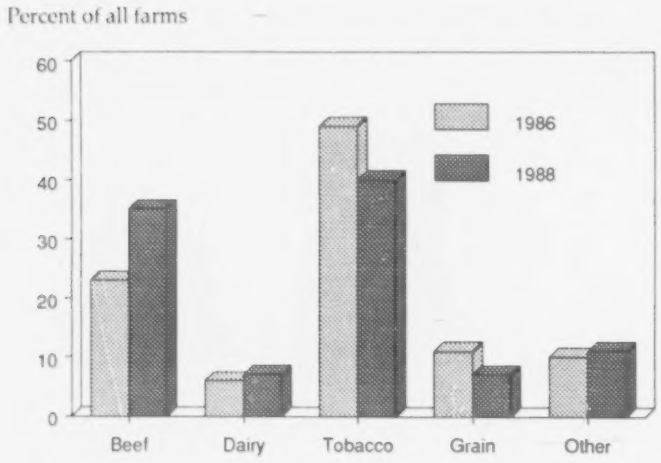
This paper presents highlights and analysis of two comprehensive surveys of Kentucky farmers conducted by the Kentucky Agricultural Survey. These surveys, conducted in both 1986 and 1988, are part of a six-year joint research project sponsored by the University of Kentucky Departments of Agricultural Economics and Sociology[1]. There are four sections: Kentucky Farm Structure and Demographics; Off-farm Employment; Farm Debt; and Kentuckians Who Are No Longer Farming.

"Tobacco, the state's major crop, declined in importance."

Timothy Collins is Graduate Research Assistant in the Department of Sociology at the University of Kentucky. Kurt Stephenson was formerly Research Assistant in the Department of Agricultural Economics at the University of Kentucky and now is at Virginia Polytechnic Institute. Jerry R. Skees is Associate Professor of Agricultural Economics at the University of Kentucky. Louis E. Swanson is Associate Professor of Sociology at the University of Kentucky.

NOTE: PLEASE SEE BACK PAGE FOR IMPORTANT SUBSCRIPTION INFORMATION.

Figure 1. Distribution of Farm Types



Note: Over 50 percent of all farm sales must be from the farm type.

"There is no 'typical' Kentucky farm."

Source of the Data

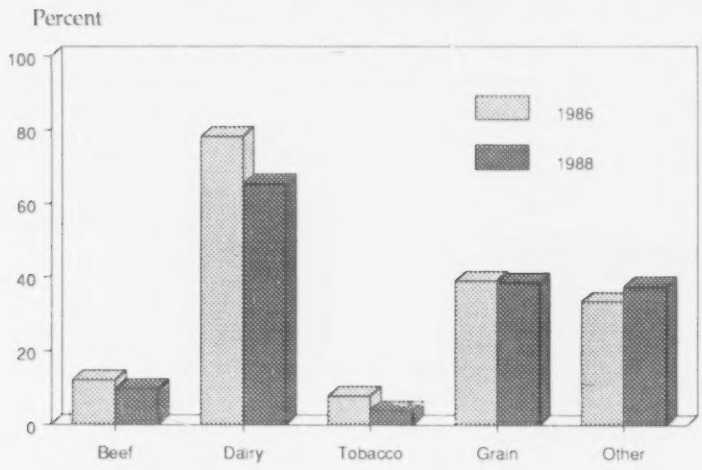
The first Kentucky Agricultural Survey, conducted in spring, 1986, yielded responses from more than 1,000 respondents from Kentucky who considered themselves farmers[2]. These respondents had more than $1,000 in gross farm sales annually. In spring, 1988, a second mail survey was conducted of farmers who responded in 1986 and about 830 responses were received. Of these, about 11.7 percent were no longer farming. The results presented here, with the exception of the section on those who have quit farming, are based on responses from nearly 450 current farmers[3].

Kentucky Farm Structure and Demographics

Farm structure refers to characteristics used to compare farm operations, such as types of commodities grown or raised, amount of annual gross farm sales, whether a farm is considered commercial or subcommercial, and acres owned or rented. Demographic characteristics describe members of the farm community. These characteristics include age and gender of the farm operator and household education and income.

There is no "typical" Kentucky farm. Kentucky is a state with diversified agriculture, as shown in Figure 1. In fact, farms may have become slightly more diversified between the 1986 and 1988 surveys. Tobacco, the state's major crop, declined in importance, with almost 40 percent of farms reporting it as principal income source (i.e., more than 50 percent of total farm sales) in 1988, compared with 49 percent in 1986. Beef cattle became much

Figure 2. Percentage of Commercial Farms within Commodity Classifications



"The percentage of commercial farms across the state declined to about 16% in 1988 from just over 19% in 1986."

more important during the period, but cash grain declined.

The percentage of commercial farms across the state declined to about 16 percent in 1988 from just over 19 percent in 1986. As defined by the U.S. Department of Agriculture, a commercial farm has more than $40,000 in annual gross sales. In the subcommercial category, about 47 percent of the farms had annual gross sales of less than $10,000 in 1988, compared with nearly 44 percent in 1986. Despite their declining percentage, commercial farms claimed 72 percent of total sales in both 1986 and 1988. In other words, commercial farms continued to increase their share of sales. Mid-sized operations had a decline in sales, following a national trend.

Figure 2 shows the division of commercial farms by commodity type (more than 50 percent of annual gross sales from a particular commodity). Thirty-nine percent of grain farmers were considered commercial in both surveys. While commercial dairy farms still dominated, their percentage declined somewhat. Beef showed a slight decline. Tobacco declined from 8 percent of the commercial operations to nearly 4 percent.

These data help unmask an important facet of agriculture in the Commonwealth—the importance of beef and tobacco production to subcommercial farm operations. In fact, beef and tobacco seem to have become even more important as sources of income for these farmers. The mainstays of commercial farms tend to be grain and dairy.

Another measure of Kentucky's agricultural structure is farm size measured in acres. Statewide, farm size was unchanged between 1986 and 1988, averaging 177.75 acres.

The income of Kentucky's farm families kept pace with inflation. Average household income increased about 9 percent, from about $31,800 in 1986 to about $34,700 in 1988. About a third of Kentucky farmers reported total family income before taxes of $40,000 or more in 1988, compared with 28 percent in 1986. And 35 percent had incomes of less than $20,000 in 1988, compared with 37 percent in 1986.

The average age of farm men was 53 and farm women, 51. On the average farm, men did not quite complete high school, but women did. The percentage of farms operated by males declined slightly from about 96 percent to just under 94 percent.

Off-farm Employment

Over the years, rural areas have become less dependent on agriculture as the principal source of family income. In Kentucky and across the rest of the nation, more and more farm families have seen members go to work off the farm while continuing to run the farm operation. This long-run trend of an increasing number of part-time farmers has meant major changes for farm families, rural communities, and farming itself[4].

If nothing else is evident, it should be clear that the overall health of the farm sector is closely tied to the health of the nonfarm economy. Only about one-third of the farms in the state can now be considered full time (Figure 3); this in itself is powerful evidence of how farmers have become at least partially dependent on off-farm employment.

The percentage of farms where both the operator and the spouse were employed off-farm (Type 3) increased from over 28 percent in 1986 to about 34 percent in 1988. The percentage of full-time farms hovered between 34 percent and 35 percent and was essentially stable between the two surveys.

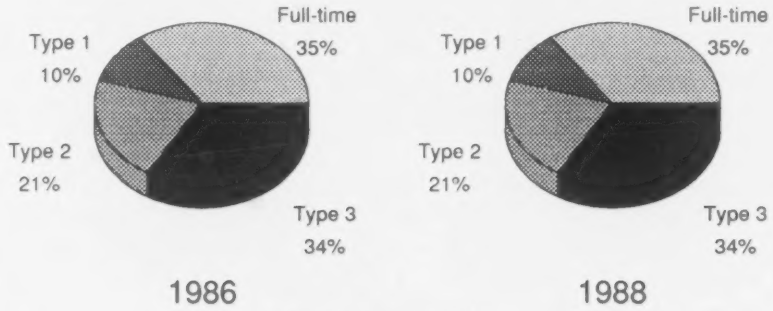
In 1988, farms where neither the operator nor spouse had off-farm employment had substantially higher annual gross sales, an average of $57,830, compared with operations where both the operator and spouse had jobs ($11,718); the operator worked off farm ($25,143); and the spouse worked off farm ($36,711).

Part-time farmers tended to concentrate on beef and tobacco, while full-time farmers tended to concentrate on grain and dairy. Those part-time farmers depending on beef cattle for more than half of their annual gross sales increased from more than 28 percent in 1986 to about 38 percent in 1988, while those depending on cash grain declined from over 9 percent to under 3 percent.

Farm Debt

During most of the late 1980s, media coverage focused on the critical farm debt situation. Many farmers had bought land during the inflationary 1970s, expecting land values to increase even more. When

Figure 3. Farmers and Employment in Kentucky-1986 and 1988



Type 1: Spouse works
Type 2: Operator works
Type 3: Both work

land values and commodity prices dropped and interest rates rose in the first half of the 1980s, these farmers found themselves in a precarious debt/asset (D/A) position. The situation improved between 1986 and 1988.

The financial health of Kentucky farmers, as measured by the D/A ratio, improved between 1986 and 1988 (Figure 4). Part of the recovery can be attributed to increased land values. In addition, farmers may have used their increased cash flow as a result of improved commodity prices to retire some of their debt. There were fewer farms with high D/A ratios (40 cents or more of debt for every dollar of farm assets) in 1988, about 13 percent, compared with nearly 18 percent in 1986.

Debt position and age of the male in the farm family were closely related. Families with males under age 45 had the highest debt load. In 1986, about 44 percent of this group had high D/A ratios; in 1988, the figure declined to nearly 34 percent, still far above those aged 45 and over.

Debt loads fell for both commercial and subcommercial operations. About 21 percent of the commercial farms had high debt in 1986, compared with over 19 percent in 1988. About 18 percent of the subcommercial farms were in the high category in 1986, compared with nearly 12 percent in 1988.

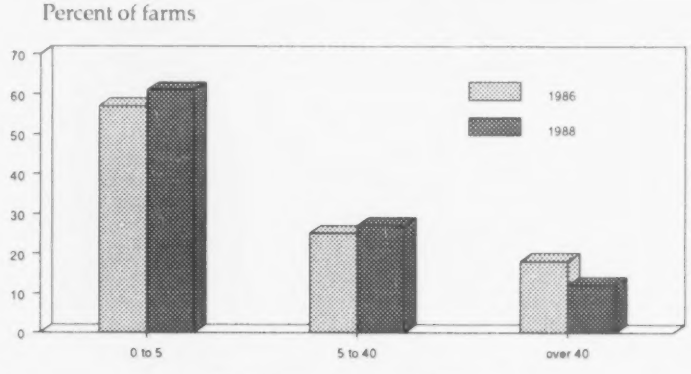
Where both the operator and the spouse worked off the farm, the high D/A situation improved from more than 25 percent of the farms in 1986 to almost 21 percent in 1988. Where only one person worked off farm, the improvement was even more marked, declining from over 24 percent of the operations with a high D/A situation to nearly 14 percent. Where both the operator and spouse stayed on the farm, there was essentially no change.

"The financial health of Kentucky farmers...improved between 1986 and 1988."

Kentuckians Who Are No Longer Farming

There are a number of reasons why people leave farming, including retirement and better-paying work off the farm. Contrary to media reports, only a relatively small percentage of former Kentucky farmers cited bankruptcy as the reason for

Figure 4. Farm Debt Levels, 1986 and 1988



leaving farming. While nearly 12 percent of those surveyed in 1986 had left farming by the 1988 survey, more than half (56 percent) had retired. Only about 16 percent cited bankruptcy, while the others provided a variety of reasons for leaving farming. The two groups—those who retired and those who gave other reasons for leaving farming—have quite different characteristics.

With all of the publicity given to farm financial stress and forced bankruptcy during the 1980s, it is important to note here that many of Kentucky's farmers who left agriculture were enduring some financial problems, but most were no longer farming because they found that off-farm employment gave them better economic returns than their farming operations. However, more than 80 percent of these former farmers continued to hold on to at least some of their land and live in rural areas. This is indicative of a diversifying rural economy in Kentucky.

As a group, these ex-farmers, before leaving agriculture, had several characteristics which set them apart from both those who retired and those who remained in farming. Their operations tended to be smaller, both in terms of gross sales and acres.

In addition, they showed more dependence on off-farm income and had generally higher off-farm income, with more operators working and more families with both the operator and spouse working. Unlike most part-time farmers, they showed less dependence on both tobacco and beef.

Their financial condition was marked by generally higher, but not necessarily excessive, debt/asset ratios. While financial stress may have played a role in their decision to quit farming, they certainly were not, as a group, facing bankruptcy. In addition, members of this group were generally younger, more educated, and less experienced at farming.

These points suggest that the operations of those who left farming, but did not retire, were different from the "typical" Kentucky farm operation. The small scale of the farms implies inability to generate adequate farm income.

The dependence on off-farm income suggests the availability of off-farm employment offered economic alternatives with better returns. Less reliance on tobacco suggests possible problems with farm cash flow, which made it difficult to lower debt levels. Younger age and generally higher education levels may have offered employment flexibility.

The small scale of most of the operations for those who left farming, but did not retire, in conjunction with relatively large off-farm income, suggests that these ex-farmers may have viewed their operations as a secondary source of income all along. Their operations were marginal to begin with, and it was difficult, if not impossible, to cover the costs of operation, especially debt service, given the historically high interest rates of the 1980s. ■

NOTES

1. Funding for the project comes from both the University of Kentucky College of Agriculture and a grant from the United States Department of Agriculture, Economic Research Service. For a copy of the full report, please contact the Kentucky Agricultural Survey, Department of Sociology, 223 Scovell Hall, University of Kentucky, Lexington, KY 40506-0064.

2. The 1986 sample was made up of 5,199 farmers and farmland owners drawn randomly from Agricultural Stabilization and Conservaton Service mailing lists. These lists covered anyone who had participated in any government farm program, including tobacco. The final response rate was 65 percent, considered good for this type of endeavor.

3. Figures for 1986 presented in this section may vary from those presented in earlier papers on Kentucky farm change published during 1987 and 1988 (KFC #1-KFC #12, Special Extension Series). In surveys of this type, there are a certain number of persons who replied to the earlier survey, but did not answer later questionnaires. Also, some respondents did not answer all of the same questions in both years. In addition, there are respondents who are no longer farming.

4. See, for example, Mark Drabenstatt and Lynn Gibson, eds., *Rural America in Transition* (Federal Reserve Bank of Kansas City- Research Division, Kansas City, MO, 1988.); or *Technology, Public Policy, and the Changing Structure of American Agrculture* OTA-F-2885 (U.S. Congress Office of Technology Assessment, 1986), Washington, DC: U.S.G.P.O.

NEWS & NOTES

CURRENT PROJECTS

The mission of the Center for Business and Economic Research is 1) to ***monitor and analyze*** the economy of Kentucky and report findings, primarily to business and government; 2) to ***conduct*** studies directed toward understanding the key issues and alternatives for economic improvement in the Commonwealth, and 3) to ***promote*** the development of research and contribute to the academic excellence of the College of Business and Economics. Consistent with its mission, the Center for Business and Economic Research at the University of Kentucky is currently involved in several in-house, special research studies in areas including...

Equine Industry: The Greater Lexington Chamber of Commerce is coordinating a study of the impact of the equine industry on the general economy of the Commonwealth of Kentucky. This study, performed in three parts, is scheduled for completion in December of this year. Dr. Charles F. Haywood is responsible for the overall direction of the study, which includes *1)* a Situation Analysis, *2)* an Economic Impact study including input-output analysis, and *3)* a Quality of Life assessment. When completed, this study will be the most thorough analysis of the horse industry in the Commonwealth to date.

Child-Care: The research team at the Center is also conducting a feasibility study of employer sponsored child care. Sponsored by the Mountain Association for Community Educational Development and the Appalachian Regional Commission, the study is aimed at comparing the needs of working mothers and available day care in one eastern Kentucky community.

Transportation Logistics for Industry: A study is currently underway to determine how transportation innovations impact markets. Dr. Roger Calantone is leading the research team in the development of a survey to investigate customer responses to transportation changes. The study is sponsored by the U. S. Department of Transportation and is scheduled for completion in late fall of 1990.

Lynne S. Kelly

PLEASE HELP US UPDATE OUR MAILING LIST. . .

Several changes are being made in CBER's publications program. The revised program includes:

Annual Report- In its revised format since 1987, CBER's *Annual Report* on the Kentucky economy has been especially well received. The next issue is in progress and will be released in January 1991.

Kentucky Economic Update- This is new. It will be released in July of each year and will update the economic outlook for Kentucky. The first issue will come in July 1991.

Review and Perspective- We are changing this quarterly publication to an occasional paper series. The first such paper is the attached "Kentucky Agricultural Survey Highlights, 1986 and 1988." Four to six papers will be published each year.

Local Economic Area Development Studies- This is another of our new publications. The economic structure and trends in multi-county areas in Kentucky will be reviewed and projected. Four to six studies each year, with the first ready for release in early 1991.

Special Bulletins- The first of this new series from CBER's Kentucky Economic Information Service was released in July 1990. Future releases will be made as needed to pass along in a timely way important economic information received by CBER from such sources as the Bureau of Economic Analysis and the U. S. Department of Commerce.

For you to decide...

Option 1

If you wish to remain on CBER's mailing list, we will send you a free copy of the 1990 *Annual Report* when ready in January 1991. We will also send you notices so that you can order copies of the other CBER publications as they are released. The cost will vary by type of publication, with $1 to $3 expected for most.

Option 2

If you wish to remain on CBER's mailing list *as a subscriber* for $10 per year, we will send you a copy of the 1990 *Annual Report* and all the other CBER publications as each one is released.

If you have any questions, please call us at (606) 257-7675.

Mail to: CENTER FOR BUSINESS & ECONOMIC RESEARCH
301 MATHEWS BUILDING, UNIVERSITY OF KENTUCKY, LEXINGTON, KY 40506-0047

Check one:

- ❑ Option 1: Keep my name on the mailing list and send 1990 *Annual Report* free.
- ❑ Option 2: List me as a subscriber to receive all publications.
  - ____ $10 check enclosed.
  - ____ Please bill me for $10.

Please fill in below.

Name/Title Organization

Street/ P. O. Box City, State Zip Code

ATTENTION: Your response will assure that we keep you on our mailing list.

U7138-12-F

Center for Business & Economic Research

REVIEW & PERSPECTIVE

College of Business & Economics ■ University of Kentucky

Volume 15, Number 1 ISSN 0270-1421 OCLC: 5289744 January 1991

Elderly Migration in Kentucky

John F. Watkins

Migration has been receiving increased attention in studies of the elderly. This has largely been due to the awareness that America's population is "aging," that migration has an influence on changing subnational population sizes and age structures, and that these changes are associated with demands for housing, goods, and services. Furthermore, it has been suggested that elderly migration, particularly among those who have just recently retired, may be used as a development tool in light of their expenditures for housing and recreation.

The Commonwealth of Kentucky has experienced persistent, although relatively small, net losses of its older population through migration over the past several decades.[1] In spite of this net outmigration, Kentucky's population aged 65 years and over increased by 22% between 1970 and 1980, and its elderly comprised a growing share of the state's total population over that decade. These statements, however, fail to recognize the geographic patterns of elderly Kentucky migrants into and out of the state, and it also ignores the redistributional patterns of migrants *within* the state. Indeed such information provides an important foundation on which to build more detailed county level studies of the impacts of elderly population change.

Kentucky's population aged 65 years and over increased by 22 percent...

This paper offers a general summary of Kentucky's older migrants, with particular emphasis on place-to-place movements. An unfortunate consequence of this emphasis is that the data are restricted to the 1980 census; the most recent date for which comprehensive and reliable migration data were collected.[2] Still, this examination demonstrates the distinct geographic nature of elderly migration, and suggests a framework for continued studies incorporating the 1990 census information once it is released.

Kentucky in the Context of Interstate Migration

As a state, Kentucky ranked 23rd in 1980 population aged 60 years and over (563,601), 29th in percent of elderly percentage (15.4%), 28th in inmigrants aged 60 years and over (17,833), and 26th in outmigrants aged 60 and above (17,634). Table 1 shows that elderly migrants into and out of the state tend to be female and white. Generally, the differentials between the sexes and races are greater among the outmigrants and are more pronounced for the older group. Of particular note is the dominance of female migrants in the older age group, who exhibit

Table 1. Demographic Characteristics of Elderly Kentucky Inmigrants and Outmigrants

	Ages 60-74		Ages 75 +	
	To Ky	From Ky	To Ky	From Ky
Total Migrants	13836	12363	3997	5271
Male %	46.36	43.31	29.52	27.51
Female %	53.64	56.69	70.48	72.49
White %	94.19	95.45	97.00	94.04
Nonwhite %	5.81	4.55	3.00	5.96

J. F. Watkins is Assistant Professor of Geography and Associate of the Sanders Brown Center on Aging, University of Kentucky.

Kentucky may play a pivotal role in national elderly redistribution trends.

quite different reasons for moving than their younger counterparts. Whereas younger elderly migrants tend to move as a husband-wife couple that is economically and physically independent, older females are generally widowed, becoming more disabled, and in greater need of emotional support and health care services. Indeed, "return migration," or movement back to one's state of birth with the assumed motive of rejoining family members, prevails in the older elderly age groups, and there is evidence that Kentucky is among the leaders in attracting its elderly natives back from other states.[3]

The regional characteristics of Kentucky's interstate elderly migrants are delineated in Table 2. Most of the inmigrants in the period between 1975 and 1980 originated in the North Central census region (9,854), with just over half as many coming from the other states of the South census region (4,936). Most outmigrants remained in the South, which gained 8,505 migrants from Kentucky, compared to the 6,968 outmigrants that went to the North Central states. This preference does not hold true across all ages, however, with older outmigrants exhibiting a larger flow toward the North East.

Although the characteristic dominance of females and whites also extends to an examination of the regional origins and destinations of Kentucky's older migrants, the introduction of more spatial detail reveals variations in these tendencies. Most notable is the male dominance in the younger flow from the North East to Kentucky (51.32 percent male aged 60-74), with a significant reversal at the older ages (19.48 percent male aged 75+). Also of note is the relatively larger proportion of nonwhites in the younger transfers between Kentucky and the North East and in the older outmigrants to the West. These racial patterns may be a consequence of both the historical settlement of blacks in the south, with migration towards the major urban areas of the North East and the West and the return of blacks to the south.[4]

Kentucky-based elderly migrant flows are summarized in Figure 1, which identifies the primary contributing and receiving states of migrants aged 60 years and over.[5] This map illustrates the focused nature of elderly migrant flows, and the importance of the nation's principal origins (Illinois, Michigan, Ohio, Pennsylvania, and New York) and destinations (Florida, North Carolina, Texas, Arizona, and California), in the redistributional patterns of older Kentuckians. Although not shown on the map, it is noteworthy that the northern origin states sent more migrants to Kentucky than they received, and the southern and western destination states experienced a net gain from elderly migrant exchanges with Kentucky. This pattern suggests that Kentucky may play a pivotal role in national elderly redistribution trends. It is contiguous with, although not formally in, the traditional "Sunbelt," and its geographic position relative to the nation's principal origins and destinations provides either a natural first stage in movements toward the south, or a potential alternative settlement location that has improved access to the south while being closer to possible family ties in the north.

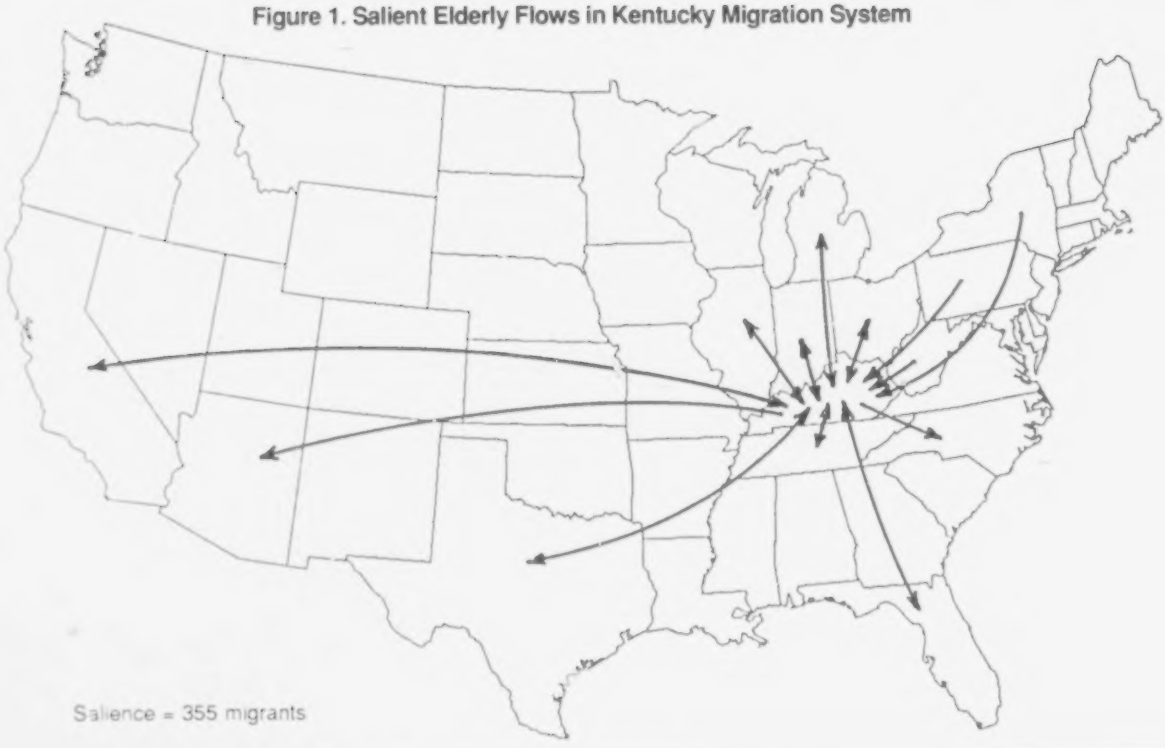
Table 2. Demographic Characteristics of Elderly Kentucky Inmigrants and Outmigrants by Origin and Destination Region

	Ages 60-74		Ages 75 +	
	To Ky	From Ky	To Ky	From Ky
REST OF SOUTH	3528	6648	1398	1857
Male %	42.83	45.85	31.40	28.76
Female %	57.17	54.15	68.60	71.24
White %	93.31	96.12	96.64	97.25
Nonwhite %	6.69	3.88	3.36	2.75
NORTH EAST	1251	354	498	241
Male %	51.32	35.59	19.48	26.97
Female %	48.68	64.41	80.52	73.03
White %	84.49	88.14	100.00	92.95
Nonwhite %	15.51	11.8	6 0.00	7.05
NORTH CENTRAL	8101	4243	1753	2725
Male %	47.04	39.52	32.46	26.39
Female %	52.96	60.48	67.54	73.61
White %	95.74	94.56	95.84	93.50
Nonwhite %	4.26	5.44	4.16	6.50
WEST	956	1118	348	448
Male %	47.18	44.99	21.55	29.46
Female %	52.82	55.01	78.45	70.54
White %	96.97	97.23	100.00	84.60
Nonwhite %	3.0	32.77	0.00	15.40

County Migration of the Elderly in Kentucky

As would be expected, counties having the largest cities generally tended to attract and send the largest numbers of elderly migrants (Figure 2). Jefferson, Fayette, Kenton and Campbell counties all appeared as primary origins and destinations of elderly migrations. A number of other counties, however, stand out in that there was less of a balance between inmigration and outmigration. Daviess,

Figure 1. Salient Elderly Flows in Kentucky Migration System

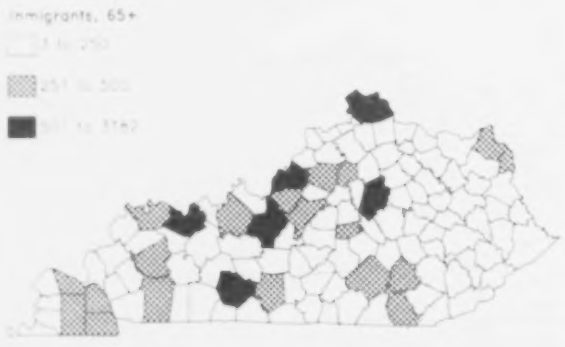


Hardin, and Warren are examples of counties in which there was a predominance of inmigration, while McCracken and Boyd are examples where outmigration dominated. The string of counties in the southeastern portion of the state, from Pike to Bell, are also distinct as net losers of elderly individuals through migration.

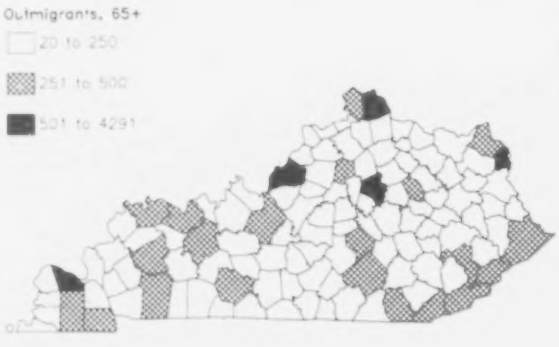
A majority of the 120 counties in Kentucky exhibited relatively low migrant activity and thus played a minor role in the state's elderly redistributional patterns. Only a few have been found to contribute significant numbers of elderly outmigrants or attract significant numbers of elderly inmigrants. Jefferson and Fayette Counties, which contain the cities of Louisville and Lexington, respectively, ac-

Figure 2. County Migrants in Kentucky for Persons Age 60 and Over

Elderly Inmigrants by County



Elderly Outmigrants by County



counted for nearly half of all the county outmigrants in the state and about one quarter of all elderly migrants who left the state. Although these counties are similar in that they both have comparatively high migrant activity, they differ with respect to the balance between flows into and out of them. Jefferson experienced a net loss in its elderly population due to migration while Fayette realized a net gain.

Additional variations between these two counties arise in examinations of migrants classified by distance of move, and of the specific origins and destinations of the moves. In general, the elderly of Jefferson County tend to be slightly less mobile, with almost 78 percent of the residents reporting no change in residence from 1975 to 1980 as opposed to about 73 percent for Fayette County (Table 3). Of the elderly persons who changed their residence, the largest majority did so within the county. Less than 10 percent of the populations crossed a county boundary (6.1 percent for Jefferson and 9.6 percent for Fayette). Of these movers, Fayette County sent a slightly larger share outside the state than did Jefferson County.

The largest proportion of elderly migrants leaving the state from these two counties went to Florida (28.9 percent for Jefferson and 30.6 percent for Fayette), with much smaller proportions going to second ranked Ohio (from Fayette) and Indiana (from Jefferson) (Table 4). Intercounty migrants within Kentucky tend to be directed towards nearby counties, and although Jefferson and Fayette have the largest cities and the largest elderly populations, transfers between them rank third to less populated but nearer destinations.

Finally, Table 5 lists the top 10 origins of elderly migrants into Fayette and Jefferson counties. In contrast to Table 4, the top ranked out-of-state origins are Ohio and Indiana for Fayette county and Jefferson county, respectively. Whereas the Ohio to Fayette county flow is over three times the size of

Table 3. Percentages by Mover Category

County	Non Mover	Intra-County	Total	Intercounty Outmigration: Within State	Intercounty Outmigration: Outside State
Jefferson	77.70	16.20	6.10	2.44	3.66
Fayette	73.41	16.99	9.60	5.24	4.36

Note: Percentage based on sum of nonmovers, intrastate movers, and total interstate migrants.

Table 4. Top Ten Elderly Destinations: Fayette and Jefferson Counties

FAYETTE

	Outside of Kentucky			Inside Kentucky	
	State	Migrants	Percent	County	Migrants	Percent
1.	Florida	264	30.56	Jessamine	172	14.47
2.	Ohio	97	11.23	Scott	108	9.08
3.	Colorado	53	6.14	Jefferson	78	6.56
4.	Indiana	44	5.09	Mercer	70	5.89
5.	West Virginia	44	5.09	Woodford	68	5.72
6.	Tennessee	42	4.86	Bourbon	55	4.63
7.	Michigan	37	4.28	Clark	52	4.37
8.	Kansas	34	3.94	Pulaski	50	4.21
9.	South Carolina	31	3.59	Anderson	33	2.78
10.	Virginia	28	3.24	Garrard	32	2.69

JEFFERSON

	Outside of Kentucky			Inside Kentucky	
	State	Migrants	Percent	County	Migrants	Percent
1.	Florida	1144	28.87	Oldham	246	9.32
2.	Indiana	694	17.52	Bullitt	245	9.28
3.	Tennessee	286	7.22	Fayette	182	6.89
4.	California	268	6.76	Nelson	167	6.33
5.	Ohio	182	4.59	Barren	156	5.91
6.	Texas	157	3.96	Shelby	149	5.64
7.	Arizona	156	3.94	Hardin	131	4.96
8.	Illinois	124	3.12	Grayson	128	4.85
9.	Michigan	122	3.08	Breckinridge	95	3.60
10.	Georgia	83	2.09	Muhlenberg	71	2.69

Note: Percentages independently calculated for each mover category.

Table 5. Top Ten Elderly Origins: Fayette and Jefferson Counties

FAYETTE

	Outside of Kentucky			Inside Kentucky	
State	Migrants	Percent	County	Migrants	Percent
1. Ohio	300	26.83	1. Jefferson	182	13.54
2. Florida	94	8.41	2. Jessamine	96	7.14
3. Virginia	85	7.60	3. Pike	92	6.85
4. Illinois	66	5.90	4. Boyle	78	5.80
5. West Virginia	61	5.45	5. Knott	78	5.80
6. Indiana	55	4.92	6. Madison	69	5.13
7. Tennessee	54	4.83	7. Scott	68	5.06
8. North Carolina	52	4.65	8. Franklin	67	4.99
9. Pennsylvania	52	4.66	9. Bourbon	48	3.57
10. New York	47	4.21	10. Mason	48	3.57

JEFFERSON

	Outside of Kentucky			Inside Kentucky	
State	Migrants	Percent	County	Migrants	Percent
1. Indiana	399	14.37	1. Oldham	100	6.64
2. Florida	370	13.32	2. Hardin	97	6.44
3. Ohio	294	10.59	3. Grayson	83	5.51
4. New York	277	9.97	4. Fayette	78	5.18
5. California	148	5.33	5. Christian	68	4.52
6. Michigan	128	4.61	6. Bullitt	59	3.92
7. Illinois	116	4.18	7. Nelson	55	3.65
8. Texas	97	3.50	8. Breckinridge	50	3.32
9. Tennessee	88	3.17	9. Franklin	47	3.12
10. Maryland	78	2.81	10. Shelby	45	2.99

Note: Percentages independently calculated for each mover category.

that from second ranked Florida and third ranked Virginia, only a fraction below four percentage points separate the top three flows into Jefferson county. In addition, within-state flows into Fayette are more concentrated than those into Jefferson, and the top origins of migrants to both counties tend to be at more distant locations than were destination locations for migrants out of the counties.

Migrant Behavior: An Examination of Migration Rates

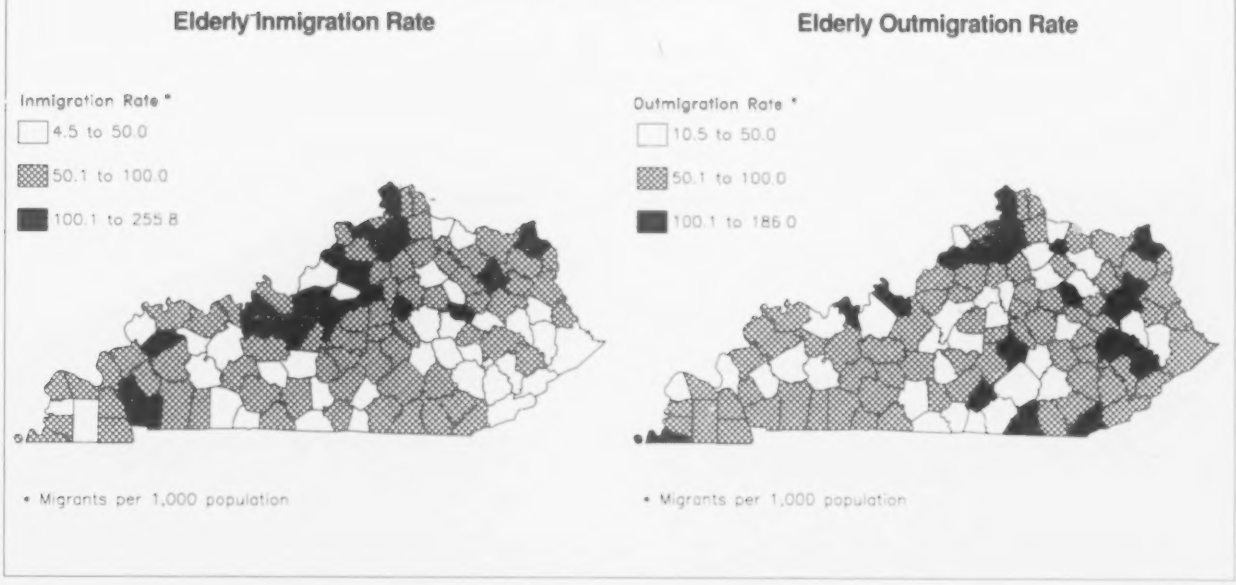
Extending the study of elderly migrant flows to that of migration rates, which standardize movements for base population size, provides an effective means of addressing both the mobility *behavior* of the elderly and the possible demographic *impact* of migration. As shown in Figure 3, calculations of elderly out- and inmigration rates by county indicate that older persons living in Jefferson and Fayette County tend to have much lower propensities to leave than do persons in other Kentucky counties. Fayette County, for example, ranks 46th out of 120 counties, with an elderly outmigration rate of 76.8 per thousand, and Jefferson County ranks 81st with a rate of 56.8 per thousand. The top ranking counties of Gallatin and Boone, which are in the northern portion of the state near Cincinnati, Ohio, have rates that are more than twice as high, and a cluster of counties in Appalachian Kentucky also exhibit outmigration rates that represent over 10 percent of their elderly populations, as indicated by rates in excess of 100 per 1000.

In terms of elderly inmigration rates, Fayette and Jefferson rank 19th and 98th, respectively, with rates of 98.4 and 42.1 per thousand. Jessamine, with 255.8 per thousand, and Boone with 213.4 per thousand, are by far the highest ranking counties, with subsequent values dropping off abruptly. Eastern Kentucky again stands out, with a large group of contiguous counties having inmigration rates that are quite low.

Summary

The cursory findings presented above illustrate the variability that exists when interstate migration streams are more clearly defined by their county constituents. They also demonstrate the type of detail that is lost in analyses that only consider interstate flows. This detail, when coupled with measures of migration propensity provides a rich source of infor-

Figure 3. County Migration Rates in Kentucky



mation from which the dynamics and behavior of elderly migrants may be studied, and the influences of different environments can be determined.

Jefferson and Fayette counties are clearly important in terms of both interstate and intrastate elderly movement. Having the largest cities in the Commonwealth, these counties provide the principal concentrations of housing, services, and urban-based amenities, which serve as attractions for potential elderly migrants. The largest share of Kentucky counties, however, are predominantly rural. Although they do not contribute large numbers of elderly migrants into either the state or the national migration system, the impact of elderly migration in these counties should not be overlooked. Without the benefits of large urban centers, rural counties may be hard pressed to provide adequate care for increasing numbers of elderly individuals, whether they migrate into the county or simply age in place. Indeed, the problems that confront the elderly are compounded in rural areas, and particularly in the eastern portion of the state where incomes are generally low, housing quality is poor, and access to health care and social services is restricted.[6]

Can elderly migration be used as a development tool? The answer may be yes if the focus is on larger urbanized counties that have the infrastructure necessary to support a growing aged population. It is doubtful, however, that a similar answer would apply to the majority of rural counties in the state. The 1990 Census should provide a clearer means of evaluating progress toward improving the living situation of elderly in these areas, and targeting counties where sufficient progress has been made in sustaining the economic and services base necessary for supporting population growth.

Can elderly migration be used as a development tool? The answer may be yes.

NOTES

1. For example, see: Biggar, J.C., D.C. Cowper, and D.E. Yeatts (1984) "National Elderly Migration Patterns and Selectivity: 1955-1960, 1965-1970, and Decade Trends," *Research on Aging*, 6:163-188; Rogers, A. and J.F. Watkins (1987) "General Versus Elderly Interstate Migration and Population Redistribution in the United States," *Research on Aging*, 9:483-529.

2. Interstate migrant patterns and characteristics were derived from a U.S. Census Bureau special state-level migrant tabulation for 1980. County level data were obtained from the U.S. Census Bureau's County Migration Tape file, 1980 for Kentucky.

3. Longino, C.F. Jr. (1979) "Going Home: Aged Return Migration in the United States 1965-1970," *Journal of Gerontology*, 34:736-745.

4. Hart, J.F. (1960) "The Changing Distribution of the Negro," *Annals of the Association of American Geographers*, 50:242-266; Johnson J.H. Jr. (1982) "A Note on Black Migration to the South," *Geographical Perspectives*, 49:38-43; Morrill, R.L. and O.F. Donaldson (1972) "Geographical perspectives on the history of black America," *Economic Geography*, 48:1-23.

5. The salience threshold was calculated as the mean volume of all flows in the Kentucky migration system, which comprises 100 individual flows.

6. Rowles, G.D., J.F. Watkins, T.W. Ilvento, K.B. Raitz, D.D. Danner, and M. Nathalang (1988) *Kentucky Atlas of the Elderly*, Occasional Publication Number 1, Sanders-Brown Center on Aging, University of Kentucky.

GROWTH AND CHANGE
A Journal of Urban and Regional Policy

Growth and Change: A Journal of Urban and Regional Policy is an interdisciplinary, refereed quarterly focusing primarily on regional science, regional economic development, and related policy issues. Within this scope, our agenda for the nineties includes special attention to environmental and international issues.

Growth and Change, now in its third decade of publication, provides a forum for scholars and practitioners in economics, geography, finance, public administration, regional and urban planning, agricultural economics, and other fields.

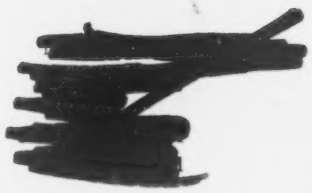
We welcome manuscripts on appropriate topics and both individual and institutional subscribers. For further information see a recent issue or write or call us: **Growth and Change**, 303 Mathews Building, University of Kentucky, Lexington KY 40506-0047; telephone (606) 257-7675.

Subscription Rates	1 year	2 years
U.S.		
Individual	$27	$49
Institution	57	90
Other Countries		
Individual	41	68
Institution	70	103

Method of Payment ($U.S. only)
___Payment enclosed
___Please bill me
___Charge to my ___Mastercard
___Visa

Name as on credit card _____
Card number _____
Expiration date _____

UK University of Kentucky
Center for Business and Economic Research
301 Mathews Building
Lexington, Kentucky 40506-0047

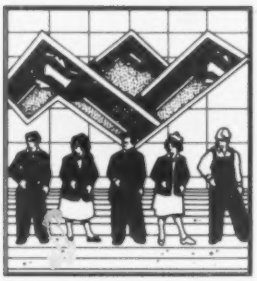


ADDRESS CORRECTION REQUESTED

DATED MATERIAL
PLEASE RUSH

Congressional Information Service
Statistical Reference Index
4520 East-West Hwy, Suite 800
Washington, DC 20814

U7139-13-F



Center for Business & Economic Research

REVIEW & PERSPECTIVE

College of Business & Economics ■ University of Kentucky

Volume 15, Number 2 ISSN 0270-1421 OCLC: 5289744 August 1991

An Update on Lottery Data, by State, FY83-FY89

J. Beth Smith

By the end of fiscal year 1989 (FY89), at least 31 states were operating lotteries, including Kentucky. In the Summer 1989 issue of *Review & Perspective*, lottery data collected by the Finance and Administration Cabinet's Office of Financial Management and Economic Analysis were reported and discussed. The following tables provide a brief update to those data which include an additional year of lottery revenue data and revised per capita wager figures based on revised population estimates.

As shown in Table 1, lottery sales continue to be substantial in the United States. Gross revenue from lottery sales totaled approximately $18,346 million dollars in FY89, representing a 15.1 percent increase over FY88 revenues. From FY88 to FY89,

Table 1. Gross Revenue (in Millions)

	1983	1984	1985	1986	1987	1988	1989
Arizona	74.90	59.28	72.82	120.94	142.19	172.63	252.01
California	*	*	*	1763.00	1388.50	1995.00	2626.00
Colorado	128.70	117.50	105.20	108.90	113.20	91.00	78.90
Connecticut	178.00	254.40	344.50	429.20	489.30	513.87	497.57
Delaware	27.60	33.05	39.64	40.92	45.79	55.82	63.36
Washington D.C.	50.70	85.59	111.99	118.64	120.71	117.58	142.50
Florida	*	*	*	*	*	636.71	1866.10
Illinois	461.50	886.12	1204.65	1284.16	1303.84	1301.46	1571.81
Indiana	*	*	*	*	*	*	*
Iowa	*	*	*	81.60	94.51	123.99	172.43
Kansas	*	*	*	*	*	66.00	67.90
Kentucky	*	*	*	*	*	*	*
Maine	13.10	15.95	16.11	38.75	58.08	82.46	100.00
Maryland	444.00	483.01	680.38	718.25	760.54	811.68	746.33
Massachusetts	261.90	364.00	864.00	1089.00	1208.00	1326.00	1452.53
Michigan	512.80	585.19	885.54	999.42	999.30	1202.82	1106.30
Missouri	*	*	*	207.00	174.00	147.00	199.20
Montana	*	*	*	*	*	25.60	11.60
New Hampshire	14.50	17.30	13.50	32.80	58.50	76.30	83.86
New Jersey	654.30	847.80	924.60	990.10	1116.90	1174.20	1246.90
New York	578.50	890.30	1271.20	1317.00	1458.80	1575.50	1847.10
Ohio	377.80	603.00	854.00	938.00	1070.00	1364.00	1413.00
Oregon	*	*	35.10	92.19	99.78	159.09	155.42
Pennsylvania	825.00	1235.23	1294.74	1320.17	1339.52	1431.16	1567.15
Rhode Island	38.50	53.93	53.25	57.92	58.83	62.35	61.04
South Dakota	*	*	*	*	*	26.00	21.00
Vermont	3.80	5.10	5.10	12.50	25.20	35.10	39.40
Virginia	*	*	*	*	*	*	409.08
Washington	166.80	164.60	149.47	181.17	193.93	214.90	255.40
West Virginia	*	*	*	52.90	66.63	54.85	59.19
Wisconsin	*	*	*	*	*	*	233.83
U.S. Total	4812.40	6701.35	8925.79	11994.53	12386.05	14843.07	18346.91
Average	267.36	372.30	469.78	521.50	538.52	549.74	632.65

* - Lottery not in operation for the entire year

J. Beth Smith was an Economist in the Finance and Administration Cabinet's Office of Financial Management and Economic Analysis when this article was submitted for publication.

Table 2. Net Revenue to State (in Millions)

	1983	1984	1985	1986	1987	1988	1989
Arizona	23.10	18.00	22.00	37.00	49.77	65.15	98.28
California	•	•	•	692.00	527.63	748.10	892.84
Colorado	47.00	41.40	32.00	29.20	35.00	31.00	18.51
Connecticut	73.80	105.50	148.80	190.90	216.10	225.00	220.55
Delaware	10.00	14.00	15.00	16.70	17.10	20.50	23.77
Washington D.C.	12.60	25.28	35.47	40.00	40.10	40.00	53.00
Florida	•	•	•	•	•	228.85	327.60
Illinois	214.90	365.40	502.83	551.79	553.06	524.41	586.10
Indiana	•	•	•	•	•	•	•
Iowa	•	•	•	27.00	33.00	40.00	49.14
Kansas	•	•	•	•	•	11.30	24.50
Kentucky	•	•	•	•	•	•	•
Maine	3.80	4.50	4.40	11.80	18.20	27.20	30.80
Maryland	198.20	199.19	250.12	323.42	332.37	352.68	335.83
Massachusetts	84.30	153.30	310.30	376.90	394.10	390.00	450.28
Michigan	214.70	236.37	359.41	415.05	407.06	488.44	443.70
Missouri	•	•	•	36.60	78.30	66.60	68.90
Montana	•	•	•	•	•	8.40	2.80
New Hampshire	5.70	5.60	4.30	10.70	10.60	27.90	30.35
New Jersey	295.40	358.32	390.87	419.35	472.22	500.90	531.30
New York	268.80	375.00	615.00	616.30	654.23	725.57	848.20
Ohio	146.50	250.00	338.60	370.00	376.00	507.00	556.00
Oregon	•	•	11.93	31.35	33.93	54.09	54.74
Pennsylvania	354.80	515.86	572.65	552.24	570.16	592.92	642.84
Rhode Island	14.40	18.43	18.66	21.63	21.59	22.09	23.80
South Dakota	•	•	•	•	•	7.80	6.00
Vermont	1.10	1.30	1.20	3.30	8.00	11.00	12.60
Virginia	•	•	•	•	•	•	140.50
Washington	69.70	71.88	62.35	69.26	78.80	83.35	103.80
West Virginia	•	•	•	20.00	28.00	15.50	17.75
Wisconsin	•	•	•	•	•	•	69.36
U.S. Total	2038.80	2759.33	3695.89	4862.49	4955.32	5815.75	6663.84
Average	113.27	153.30	194.52	211.41	215.45	215.40	229.79

• - Lottery not in operation for the entire year

the 10 states reporting the highest levels of gross revenue remained the same. However, the rankings among the 10 shifted. The state with the highest gross receipts was California in both years. Florida made the largest jump in ranking, moving from 10th in FY88 to 2nd in FY89, as revenues grew from $637 million to $1,866 million.

Generally, gross lottery revenues are distributed among three categories: prizes, administrative costs, and net revenues for use by the state. In FY89, the total net revenue returned to the 29 states with completely operational lotteries was $6,664 million, or approximately 36.0 percent of gross sales. As Table 2 indicates, California led the states again in terms of absolute net revenue dollars, with $893 million being returned to the state. However, when calculating net revenue as a percent of gross revenue, New York is the highest with 46.0 percent. New York is also the second highest state in terms of absolute net revenue dollars with $848.2 million. The state with the smallest percentage return is Florida, with 17.5 percent.

Finally, Table 3 updates previously reported per capita wager data. Slight revisions to FY83 through FY88 were made as a result of revisions to state population estimates for those years. In FY89, the average per capita wager in the U.S. was $93.85, up somewhat from $86.46 in FY88. For individual states, the average per capita wager ranged from a high of $247.87 in Massachusetts to a low of $14.50 in Montana. Many states with high per capita wager figures have large numbers of lottery players from out-of-state, thus inflating state-specific per capita figures. In a majority of states, the per capita wager was up in FY89 when compared to FY88. ❖

In FY89, the total net revenue returned to the 29 states with completely operational lotteries was $6,664 million.

In FY89, the average per capita wager in the U.S. was $93.85...

Table 3. Per Capita Wager

	1983	1984	1985	1986	1987	1988	1989
Arizona	25.30	19.44	23.04	36.87	41.94	48.77	69.04
California	*	*	*	65.30	48.45	71.07	91.79
Colorado	40.88	36.83	32.53	33.33	34.30	27.16	23.27
Connecticut	56.69	80.51	108.33	134.59	152.43	158.60	152.63
Delaware	45.54	53.83	63.73	64.64	71.55	85.88	96.00
Washington D.C.	81.25	137.16	179.76	189.52	194.69	189.65	229.84
Florida	*	*	*	*	*	51.98	148.81
Illinois	40.16	76.85	104.42	111.16	112.59	112.39	135.50
Indiana	*	*	*	*	*	*	*
Iowa	*	*	*	28.62	33.40	44.28	62.03
Kansas	*	*	*	*	*	26.61	27.27
Kentucky	*	*	*	*	*	*	*
Maine	11.42	13.77	13.83	33.03	48.81	69.29	83.33
Maryland	103.28	111.09	154.88	160.93	167.52	176.45	159.81
Massachusetts	45.45	62.76	148.48	186.73	206.14	226.67	247.87
Michigan	56.66	64.58	97.44	109.35	108.62	130.32	119.34
Missouri	*	*	*	40.91	34.12	28.65	38.60
Montana	*	*	*	*	*	31.60	14.50
New Hampshire	15.12	17.69	13.51	31.94	55.19	70.00	74.87
New Jersey	87.59	112.74	122.14	129.76	145.62	151.31	159.25
New York	32.74	50.21	71.58	73.99	81.82	88.71	104.00
Ohio	35.17	56.12	79.46	87.24	99.26	126.53	130.95
Oregon	*	*	13.07	34.17	36.68	58.27	56.52
Pennsylvania	69.33	103.89	109.14	111.05	112.19	120.67	132.36
Rhode Island	40.31	56.18	55.07	59.41	59.42	62.98	61.04
South Dakota	*	*	*	*	*	36.62	29.58
Vermont	7.22	9.62	9.53	23.11	45.82	63.82	70.36
Virginia	*	*	*	*	*	*	67.39
Washington	38.75	37.84	33.91	40.60	42.72	47.13	55.40
West Virginia	*	*	*	27.58	35.07	29.02	31.65
Wisconsin	*	*	*	*	*	*	48.71
U.S. Total	832.885	1101.111	1433.850	1813.837	1968.343	2334.443	2721.737
Average	46.27	61.17	75.47	78.86	85.58	86.46	93.85

* - Lottery not in operation for the entire year

NEWS & NOTES...

STUDY OF THE EQUINE INDUSTRY IN KENTUCKY

The Center for Business and Economic Research, College of Business and Economics, University of Kentucky, has recently completed a study of the economic importance of the equine industry in Kentucky.

The year-long project was sponsored by The Greater Lexington Chamber of Commerce. Under the direction of Dr. Charles F. Haywood, Director for the Center, the study reports and interprets the results of more than 100 interviews, a mail questionnaire survey to which more than 800 horse farms responded, and data from such sources as the American Horse Council, state racing commissions, and breed registries.

A unique aspect of the study is the broad scope of activities included in the assessment of the economic importance of the equine industry in Kentucky. Included in the study are activities such as the breeding and raising of horses, the activities of sales organizations, related businesses, and the racing and showing of horses. Also included in the study are the various types of business and professional services that are peripheral but directly related to the equine industry, and tourism attributable to the equine industry and facilities such as the Kentucky Horse Park.

The study estimates that the direct and indirect effects of the equine industry in Kentucky in 1989 amounted to $5.04 billion of total output, $1.30 billion of earnings, and 79,820 jobs. The study also included two analyses of values placed by Kentuckians on the equine industry's contributions to the quality of life in Kentucky. Professors M. C. Berger and G. C. Blomquist, of the College of Business and Economics, estimated that the annual amenity value for the state was between $61 million and $188 million. Professor R. C. Ready, of the College of Agriculture, used a contingent valuation approach to estimate that Kentuckians would be willing to pay $357 million to avoid loss of the equine industry's contribution to the quality of life. The Greater Lexington Chamber of Commerce released the study for public circulation in July 1991.

continued on page 4

UK University of Kentucky
Center for Business and Economic Research
301 Mathews Building
Lexington, Kentucky 40506-0047

ADDRESS CORRECTION REQUESTED

10082
Congressional Information Service
Statistical Reference Index
4520 East-West Hwy., Suite 800
Washington, DC 20814

NEWS & NOTES...(continued from page 3)

BEN HAWES STATE PARK—PROJECT UNDERWAY

The Center was selected by the Kentucky Department of Parks to prepare a development plan and program for Ben Hawes State Park near Owensboro. Several development options will be explored for the possibility of establishing Ben Hawes as a park of regional significance that contributes to the economic development potential of the area. Don Hartman, AICP, is the principal planner for the project.

TOURISM IMPACT ANALYSIS

Carol M. Straus recently conducted an analysis of economic impact of the tourism and travel industry for the Kentucky Tourism Cabinet. Total direct and indirect spending generated by this industry approached $5 billion in 1990.

CABINET FOR HUMAN RESOURCES

The Research Team is currently assisting the Cabinet for Human Resources in a program evaluation of the JOBS (Jobs Opportunity and Basic Skills) Program in the state. This new program, implemented in October 1990, is aimed at moving AFDC participants from dependency on government support to self-sufficiency. The Center for Business and Economic Research is supporting the Cabinet by conducting surveys and interviews in 19 Kentucky counties where the JOBS Program is available, and by examining reports in order to provide information to the Cabinet, to facilitate optimal expansion of the program in the future. The project is scheduled for completion in late summer, 1990.